## Claims

**1.** Method for recognizing the path of a tip (6) of a body (1) on a medium (10), comprising determination of an angle of orientation (θ) of the body (1) by processing (F2) measurement data (S1) supplied to a processing unit (8) by at least one angle sensor (3) arranged in the body (1), the body (1) comprising a force sensor (4) measuring the reaction force of the tip (6) of the body (1) in contact with the medium (10), the force sensor (4) supplying data (S2) representative of the reaction force in almost continuous manner to the processing unit (8), the processing unit (8) determining (F3) the orientation of the reaction force with respect to the plane of the medium (10) from the measurement data (S1, S2) from the angle sensor (3) and from the force sensor (4), method characterized in that the processing unit (8) determines a vector (ô) tangential to the path by projection (F4) of the reaction force in the plane of the medium (10), the path being determined by at least one mathematical integration (F5, F11) of a quantity that is a function of the vector (ô) tangential to the path.

**2.** Method according to claim 1, characterized in that it comprises mathematical integration (F5) of the tangential vector (ô).

**3.** Method according to one of the claims 1 and 2, characterized in that the medium (10) is flat.

**4.** Method according to any one of the claims 1 to 3, characterized in that it comprises a calibration (F1) and orientation (θ0) step of the medium (10).

**5.** Method according to claim 4, characterized in that the body (1) is placed at a predetermined angle with respect to an axis perpendicular to the medium (10) during the calibration step (F1).

**6.** Method according to claim 5, characterized in that the body (1) is placed perpendicularly to the medium (10) during the calibration step (F1).

**7.** Method according to any one of the claims 1 to 6, characterized in that it comprises determination of the acceleration (A) of the tip (6) by processing (F8, F'2) of measurement data (S1, S3) supplied to the processing unit (8) by the angle sensor (3) and by at least one accelerometer (2) located in the body (1), the processing unit (8) determining a unitary vector (û) tangential to the path by normalization (F'4) of the vector (ô) tangential to the path and determining the scalar product (F10) of data (â) representative of the acceleration (A) and of the unitary vector (û) so as to obtain said quantity representative of the tangential acceleration (aT) of the tip (6) of the body (1), the path being determined by double mathematical integration (F11) of said quantity.

**8.** Method according to claim 7, characterized in that the processing unit (8) determines the projection (F9) of the acceleration (A) in the plane of the medium (10) according to the data (S3, S1) supplied by the accelerometer (2) and the angle sensor (3), so as to supply said data (â) representative of the acceleration (A).

**9.** Method according to any one of the claims 7 and 8, characterized in that it comprises an estimation (F6) of the contribution (G) of gravity to the measurement data supplied by the accelerometer (2) and elimination (F7) of said contribution (G) from the data (S3) supplied by the accelerometer.

**10.** Method according to any one of the claims 1 to 9, characterized in that the body comprises a sensor designed to supply the measurement of a physical quantity so as to enable mapping of said physical quantity according to the measured path.

**11.** Method according to any one of the claims 1 to 10, characterized in that the body comprises an actuator.